

Abstract

1 A method of predicting the electromagnetic noise emitted by a digital circuit on an integrated
2 circuit is disclosed. In accordance with the illustrative embodiment, the output of each digital circuit
3 element in the digital circuit is considered as a bit stream. All of these bits streams are, in aggregate,
4 considered as a noise source that is characterized by a power spectral density, $S(\omega)$. The effect of the
5 noise source on an analog circuit can be modeled as a lumped circuit, wherein the lumped circuit
6 contains a noise source that represents the digital circuit; a multi-port network, also referred to as a
7 lumped element, that represents that portion of the substrate between the digital circuit and the analog
8 circuit; and a multi-port network that represents the analog circuit.

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